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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,156	04/14/2004	David G. Land	04E007	6382

7590 09/11/2007
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EXAMINER

CHAMBERS, TROY

ART UNIT	PAPER NUMBER
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3641

MAIL DATE	DELIVERY MODE
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09/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/824,156	Applicant(s) LAND, DAVID G.	
	Examiner Troy Chambers	Art Unit 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11 and 14-20 is/are pending in the application.
4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

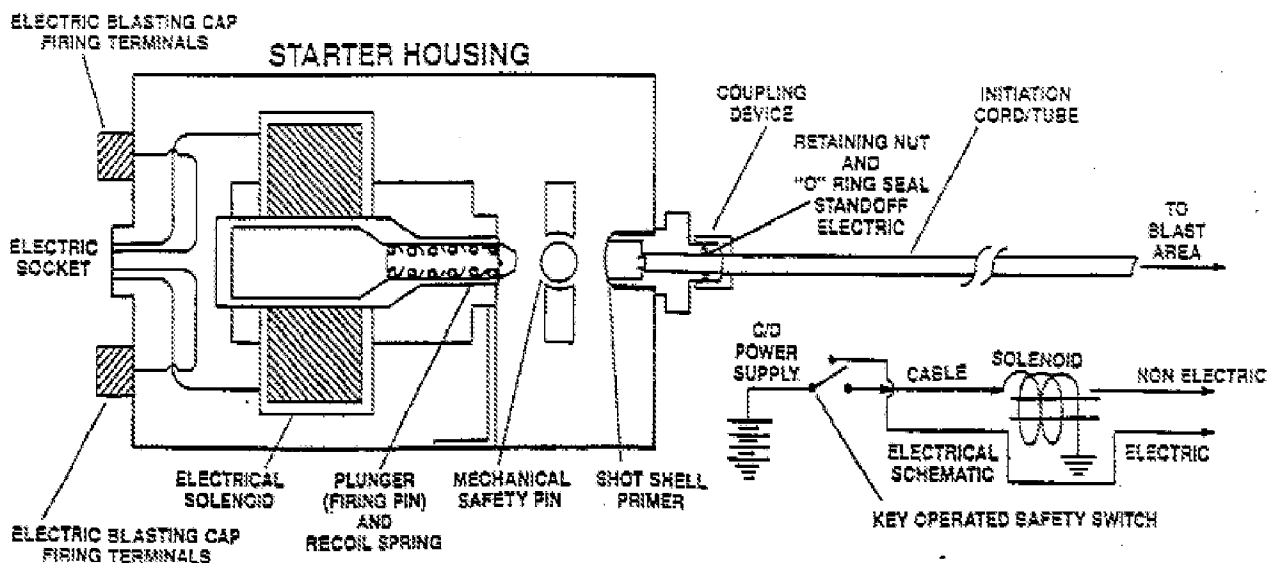
1. The finality of the Office action mailed 06/05/2007 is hereby withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 10, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4962708 issued to Snyder et al. (hereinafter "Snyder") in view of US 6867512 issued to Delaire et al. (hereinafter "Delaire") and in further view of US 6546873 issued to Andrejkovics et al. (hereinafter "Andrejkovics") and in further view of H1068 issued to Huhmann and in further view of US 4577561 issued to Perry.
4. Snyder discloses a detonator initiator comprising:



- a. a linear actuator assembly having
 - i. a core
 - ii. a coil (solenoid)
- b. a capacitor

Snyder does not disclose a core with a permanent magnet or an electrical circuit for monitoring the charge on the capacitor.

5. Delaire discloses a valve actuator comprising:

- c. a linear actuator assembly having
 - iii. a solenoid

24

- iv. permanent magnet

26

6. Andrejkovics discloses an apparatus for activating a remote device comprising:

- d. a receiver
- e. a capacitor
col. 6, line 45
- f. a controller and microprocessor
to monitor capacitor charge col. 7, ll. 45-62.
- v. support logic
Fig. 5
- vi. timer
Fig. 5

7. Huhmann discloses a CMOS capacitive charging circuit comprising:

- g. a CMOS switching transistor 8, 10
- h. CMOS logic
6

8. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the detonator initiator of Snyder with the permanent magnet of Delair. The suggestion/motivation for doing so would have been to provide increased armature force and increased travel so as to improve controllability and increase flow.

9. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the linear actuator assembly of Snyder with the capacitor charge monitoring circuit of Andrejkovics. The suggestion/motivation for doing so would have been to provide a means for delaying firing of the device until the capacitor has reached the required charge.

10. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delair and Andrejkovics with the teachings of Huhmann. The suggestion/motivation for doing so would have been to provide the combined device with a capacitor-charging network having high speed and low power drain.

11. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delair and Andrejkovics and Huhmann with the teachings of Perry. The suggestion/motivation for doing so would have been to provide a lower cost system by removing the need for a battery. (Perry, col. 2, ll. 47-49)

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder, Delaire, Andrejkovics and Huhmann as applied to claim 1 above, and further in view of US 3792663 issued to Schneider. The combined device to Snyder, Delaire, Huhmann and Andrejkovics is as described above. However, neither reference appear to disclose a component to adjust the charge threshold based on ambient temperature.

Schneider discloses an electrochemical timing apparatus including a thermistor 52 for automatically controlling the rate of a wire in response to ambient temperature variations.

13. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delaire and Andrejkovics with the electrochemical timing apparatus of Schneider. The suggestion/motivation for

doing so would have been to provide for a self-destruct option for ordinance devices to avoid undesired ignitions.

Response to Arguments

14. Applicant's arguments filed 09/04/2007 have been fully considered but they are not persuasive. The examiner has addressed each limitation in accordance with 35 USC 103. The applicant merely responds by concluding that none of the references disclose a digital logic gate configured as a comparator without providing a detailed analysis between the applicant's device and the disclosed prior art to explain why the various devices are different.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is 571-272-6874. The examiner can normally be reached on M-F from 8 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Troy Chambers/
Primary Examiner
Art Unit 3641

/T. C./

09/06/2007

Application/Control Number: 10/824,156
Art Unit: 3641

Page 8